

Water Quality Trading Guidance

(Concept Draft for Pilot Project Phase: for discussion only)



Idaho Department of Environmental Quality

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CONCEPT DRAFT

Cover: Shoshone Falls, Idaho Dept of Environmental Quality.

Disclaimer:

This document provides guidance for water quality trading in Idaho. Implementation of water quality trading will be governed by existing requirements of the Clean Water Act (CWA), Environmental Protection Agency (EPA) implementing regulations, and the Idaho Water Quality Standards. This document does not substitute for those provisions, regulations, or rules. The recommendations in this guidance are not binding; Idaho Department of Environmental Quality (DEQ) and EPA may consider other approaches consistent with the CWA, EPA regulations and the Water Quality Standards. Decisions regarding pollutant trades will be made on a case-by-case basis and will be guided by the CWA and applicable federal regulations and state standards, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation. DEQ may change this guidance in the future.

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Acronyms and Abbreviations

APAP	Idaho Agricultural Pollution Abatement Plan
BMP	Best Management Practice
CWA	Clean Water Act
DEQ	Department of Environmental Quality
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
LA	Load Allocation
NPDES	National Pollution Discharge Elimination System
IPDES	Idaho Pollution Discharge Elimination System
NRCS	Natural Resources Conservation Service
SWCC	Soil and Water Conservation Commission
TMDL	Total Maximum Daily Load
WLA	Waste Load Allocation

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CONCEPT DRAFT

1. Introduction

The purpose of this document is to provide guidance for the implementation of water quality trading, also known as pollutant trading under Idaho's water quality standards, within the State of Idaho.

1.1 Purpose of Water Quality Trading

Water quality trading occurs when a contractual agreement is made to exchange pollution reductions between two parties, in a business-like way to help solve water quality problems by focusing on cost effective, local solutions to problems caused by pollutant discharges to surface waters. There are three important aspects of water quality trading:

- ◆ Water quality trading is voluntary. Parties trade only if both are better off because of the trade.
- ◆ Trading allows parties to decide how best to reduce pollutant loadings within the limits of certain requirements.
- ◆ Water quality trading should provide a net environmental benefit.

The appeal of trading emerges when pollutant sources face substantially different pollutant reduction costs. Typically, a party facing relatively high pollutant reduction costs compensates another party to achieve an equivalent, though less costly, pollutant reduction.

1.2 Authority in Rule or Regulation for Water quality trading in Idaho

The Clean Water Act provides authority for EPA, states, and tribes to develop a variety of programs and activities to control pollution. Water quality trading, as described in U.S. EPA's 2003 Trading Policy, is one of those tools. Trading is recognized in Idaho's Water Quality Standards, incorporated into DEQ rules at IDAPA 58.01.02.055.06. Currently, the Department of Environmental Quality (DEQ) policy is to allow water quality trading as a means of restoring water quality limited water bodies to compliance with the standards. This Water Quality Trading Guidance sets forth recommendations DEQ believes should be considered when water quality trading is conducted.

1.3 Background

In November 2003, DEQ adopted a Draft Trading Guidance. The November 2003 draft guidance has been used to guide actual trades in the Upper Snake Watershed, and has helped inform discussions to expand trading to other watersheds, including, but not limited to, the Bear River, the North Fork Payette, the Spokane, the Portneuf, and the Lower Boise. In 2010, DEQ updated and finalized adoption of its Guidance to further articulate key concepts of trading and to provide watershed advisory groups (WAGs) more details on the elements and documentation needed to develop a local trading

framework. After four years of experience with trading in Idaho and in the region, DEQ is updating the Guidance again to help answer some of the common questions about trading being asked by stakeholders.

Box A – Trading Guidance, Frameworks, and Plans:

Ultimately, the information included and referenced in an NPDES permit or equivalent will be the requirements a permittee needs to follow. That information will be drawn from the following types of documents and other sources as relevant, including:

Trading Guidance: This document, which contains Idaho DEQ's essential guidelines on how WQT should occur within Idaho.

Trading Framework: Watershed-level documents that contain details of trading processes and standards (e.g., the Lower Boise River Trading Framework).

Trading Plan: The specific incorporation of trading elements into a permit or other binding agreement. A permittee's trading plan may incorporate the terms of a relevant watershed trading framework by reference, or it may include all specific details within the permit itself.

2. Questions and Answers about Water Quality Trading

Common questions and answers about water quality trading include the following:

Q What is water quality trading?

A Water quality trading is one strategy to reduce problem pollutants (such as total phosphorus or temperature) in rivers and lakes. Trading allows a wastewater treatment plant, factory, or other *point source* discharger¹ to purchase controls of a particular pollutant elsewhere in the watershed instead of installing tighter controls for that pollutant at the discharger's plant. The conditions of trading must be included in the point source discharger's National Pollutant Discharge Elimination System (NPDES) permit or other enforceable agreement (e.g., a 401 certification).

Q Who can participate in water quality trading?

A Trading can occur between two point source dischargers (point-point trading) or a point source discharger and a nonpoint source who reduces pollutant loads (point-nonpoint trading). See Section 4.4 for more information on types of trades. Before anyone can participate in trading, there will likely need to be specific analysis and measures to ensure consistency with water quality goals and the provisions within the CWA, EPA regulations, the IDAPA and this Guidance.

Q Why would dischargers want to trade?

A Trading can save dischargers money. The intent is to achieve expected reductions of a problem pollutant at a lower cost. Trading also allows dischargers to direct compliance money, that would have been spent otherwise, to watershed improvements that can enhance recreation opportunities, and promote better fish and wildlife habitat.

Q What are the benefits of water quality trading?

A The potential exists, in some watersheds, to realize cost savings through water quality trading. Trading provides an incentive to reduce pollutants beyond current limits, helps to achieve water quality standards more quickly, and fosters technological innovation, while maintaining an emphasis on water quality improvement. Moreover,

¹ Per the Idaho Administrative Code, "point source" means "[a]ny discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are, or may be, discharged. This term does not include return flows from irrigated agriculture, discharges from dams and hydroelectric generating facilities or any source or activity considered a nonpoint source by definition. IDAPA 58.01.02.010(79) (2014).

under certain conditions, water quality trading affords the opportunity for independent groups to purchase and retire pollutant discharge credits.

Q What are the keys to successful water quality trading?

- A** Enforceability, which includes monitoring and performance tracking, is the key for water quality trading. Although point sources are regulated through their NPDES permits, nonpoint sources are not always regulated and are not typically monitored. Because monitoring is essential, point sources involved in trading should be required by their permits to monitor any nonpoint source projects used as permit compliance. Transparency, which includes clearly articulated permit conditions and trading plan details, is also key for water quality trading.

Q What are the potential problems with water quality trading?

- A** Trading may not always be the cheapest alternative for a point source, but its flexibility and scalability might still be appealing. Trading may not be available to all dischargers because trading cannot be used if the point source's discharge would create localized areas of impact (pollution hot spots). Trading may not always provide the greatest opportunity for water quality improvement in some watersheds, so should be considered in tandem with other approaches

3. Essential Safeguards for Any Water quality trading Program

Individual trades and different watersheds will face unique situations and issues. In general, trading frameworks and plans should follow these guiding principles:

- ◆ Trades should be based in sound science and more effectively accomplish regulatory and environmental goals than other alternatives.
- ◆ There needs to be accountability that allows regulators to confirm that promised water quality improvements are actually delivered.
- ◆ The benefits of trading must be delivered without allowing the discharger to produce localized water quality problems.
- ◆ Trades need to be consistent with Idaho water quality standards, Clean Water Act requirements, and local laws.

To ensure success and compliance with Water Quality Standards, a successful water quality trading program requires safeguards to ensure that trading helps solve existing water quality problems without creating new ones. Such safeguards include the following:

- ◆ *Consistency with existing regulations.* Water quality trades and trading programs must be consistent with the Clean Water Act (CWA), Code of Federal Regulation (CFR), Idaho statutes and administrative rules, and all other applicable laws and regulations, including local and tribal regulations.
- ◆ *TMDLs are Typically a Prerequisite.* A TMDL provides the framework for a watershed by setting the overall cap on a specific pollutant and dividing the reductions amongst various sources. TMDLs also provide the science and analysis to support tradeoffs between more pollution reductions in one part of the watershed and less in another part. (Situations where a TMDL may not be a prerequisite are discussed in *Specific Policies for Water Quality Trading*.)
- ◆ *Good Compliance Records.* Dischargers generally should have a good track record of compliance with their NPDES permits, including having EPA-compliant Quality Assurance Program Plans and monitoring in order to sell credits in a point-point trade.
- ◆ *Pollution Discharge Limits in Permits.* Trading can be used to meet part or all of a discharger's Water Quality-Based Effluent Limits (WQBELs), assuming all reasonable treatment technology has been installed. In some cases, DEQ may determine that a technology option for the permittee is not as reasonable as

trading to meet all of a WQBEL. Trading to achieve Technology-Based Effluent Limits (TBELs) is not allowed by the state of Idaho.

- ◆ *Implementation through Enforceable Mechanisms.* Trading is typically implemented through a permit, order, or license. The individual trade transactions must also be memorialized in a contract, or similar formal agreement.
- ◆ *Adequate Trading Ratios.* When nonpoint sources are authorized to trade, a detailed trading framework must be designed that takes into account all the variables and uncertainty of the Best Management Practices (BMPs) applied, locations in the watershed to trade, and under what conditions the trades are valued.
- ◆ *Clear Trading Areas.* Trading frameworks and plans need to define a geographic boundary, based in the science of a watershed, where trades are appropriate. A trading area helps ensure there are no localized impacts and that trades contribute to meeting water quality standards. The easiest way to avoid hot spots is to set a trading area so that the seller of credits is upstream of the buyer. However, in some watersheds, depending on the pollutant and the number of sources and points of compliance, downstream sellers may be able to sell to upstream buyers. Generally, trading between basins is inappropriate, but may be appropriate in specific situations where the science supports it.
- ◆ *Clear “Baseline” Policy.* Nonpoint credit sellers need to meet some minimum requirements (baseline) prior to selling credits, which is discussed more in Section 6.1.
- ◆ *Policies that Avoid Localized Impacts/Hot Spots.* Any trading framework or plan needs to analyze the potential for localized impacts and be specific about measures and/or monitoring that will be completed to ensure there are no localized impacts. If a TMDL has already conducted some or all of this analysis, it should be used.
- ◆ *Implementation of Projects According to Quality Standards.* Credit-generating trading projects must be designed and managed in a consistent manner to ensure that such projects result in water quality benefits throughout the project’s lifetime.
- ◆ *Time Frame for Trading (Credit Life).* Trades can only occur between parties for the same time period in which the credit is generated (i.e., there is overlap between the buyer’s need, and when the seller’s credit is producing benefit). The time period, or credit life, needs to be based in science and tied to the critical period(s) for a watershed. Credit life may be monthly, seasonal, or annual. Credits cannot be banked (e.g., a pollutant reduction in 2012 cannot be used to offset a discharge in 2014).
- ◆ *Sufficient Monitoring.* A consistent and verifiable monitoring program is essential for a successful trading program. Point sources are already required to monitor, but ambient monitoring within the watershed, ideally as part of a TMDL

monitoring program, is also important to ensure water quality improvements are in fact occurring and that localized impacts are not. Nonpoint source sites should also be monitored to ensure the conditions supporting water quality benefits are in place and being maintained while the project is generating credits.

- ♦ *EPA Oversight.* EPA issues NPDES permits for the State of Idaho and will maintain oversight of permits, and the associated trading frameworks, that are relying on trading to achieve compliance. Idaho DEQ is working to establish state primacy for an IPDES permit program, and once established, funded, and staffed, would maintain oversight of permits for which it is granted primacy. At that time, oversight will transfer from EPA for trading for the relevant permit types.
- ♦ *Public Involvement.* Idaho DEQ, in concert with Region 10 of EPA, oversees development of Water Quality Trading Frameworks on a watershed basis with local WAGs and public participation. This public involvement is crucial to the success of a trading program. Public participation is also an essential required element of the NPDES permit program.

4. Scenarios Where Trading Can Be Used

Trading can be used to offset pollutant loads under several scenarios consistent with a watershed-specific trading framework (for more information, see IDAPA 58.01.02.055.06.):

- To offset existing discharges to a CWA 303(d) impaired water body with an EPA approved TMDL or similar watershed analysis needed to support trades. See Section 4.5 for more criteria on pre-TMDL trades with existing discharges. Point sources must ensure their discharge does not increase or further impair the water body for the specific pollutant.
- To maintain high water quality in waters that already meet or exceed Idaho Water Quality Standards, provided the standards are met and beneficial uses are protected. For example, trading may be used to compensate for new or increased discharges of pollutants to avoid degradation of water quality.
- To offset new or expanding point source discharges to a 303(d) impaired water body without an EPA approved TMDL. Point sources must ensure their discharge does not increase or further impair the water body for the specific pollutant consistent with the requirements of 40 C.F.R. 122.4(i).

DEQ cannot allow trades that would circumvent existing technology-based effluent limits.

4.1 Pollutants Not Being Considered for Trading

DEQ does not anticipate trades involving bacteria. Bacteria, such as fecal coliform and *E. coli*, have the potential to threaten public health and, as such, should not be considered for trading. DEQ does not anticipate trades involving toxics at this time.

4.2 Pollutants DEQ Recommends for Trading

DEQ considers nutrients and temperature appropriate pollutants for trading—specifically, phosphorus, nitrogen, and thermal load. The unit of credit should be tied to the unit of pollutant in a permit. Sediment or suspended solids trading to address sedimentation may be considered, particularly where dissolved oxygen impacts occur. DEQ supports trades where adequate information exists to establish and correlate water quality improvements from implementation of best management practices or technological measures.

4.3 Incorporating Trading into NPDES Permits

Ultimately, the authority to trade comes from a discharger's NPDES permit, which is currently issued for the State of Idaho by EPA. DEQ would expect a permit to include a trading plan providing detail (or incorporating the detail from an approved watershed trading framework) on how trades will be conducted. As part of DEQ's 401 certification of NPDES permits, DEQ would confirm that a permit and trading plan adequately describe or clearly reference material that describe the pollutant, credit units and

characteristics, calculation methodology, and quantity of credits needed for compliance. DEQ would also review the permit for clarity on where credits can be acquired, how credits will be monitored and reported upon, how/if risk and uncertainty have been addressed, and any connection between trading and compliance schedules, mixing zones, anti-degradation provisions, and related federal provisions. EPA's "Water Quality Toolkit for Permit Writers - 2007" and "Water Quality Trading Assessment Handbook" provide additional information and recommendations on trading and can be found at: <http://www.epa.gov/owow/watershed/trading.htm>.

Registering trades with DEQ or its designee does not reduce the responsibility of an NPDES permittee to comply with the terms of its permit. NPDES permittees participating in trades are responsible for the quantity and quality of the credits even when a third party acts as a consolidator or certifier of credits.

4.4 Trading Parties and Types of Trades

Both point and nonpoint sources are eligible to trade. Although this Guidance focuses on regulated point sources as buyers, DEQ supports voluntary purchases of water quality credits outside of compliance obligations. Trading parties agree on the specific terms of a trade by entering into private contracts. The contracts identify the trading parties, pollutant reduction measures that will be undertaken, credit amount, effective date, trade duration (how long the trade is valid), responsibilities of each party, price and payment provisions, and remedies for failure to deliver credits. These contracts are private agreements and so are not submitted to any agency and so are not available for public review.

There are generally two different types of trades recognized for water quality trading: point- source-to-point-source trading, and point-source-to-nonpoint-source trading.

Point-Source-to-Point-Source Trading

A point source may voluntarily reduce its pollutant discharge below its effluent limit by a particular amount for a particular period of time. This voluntary reduction creates a credit that may be sold to another point source. Once sold, the reduction becomes part of a contract between the two point sources. The sale of credits increases the seller's effective discharge by the amount of the credit. Credits are characterized by an amount of a pollutant per unit of time.

A point source is able to decrease its reported discharge by purchasing credits generated by another point source located within the same trading area so long as the purchasing point's discharge does not cause local hot spots (individual point sources may have provisions in their permits that limit their ability to maintain or increase their discharge to prevent hot spots). Credits can only be used in the same month in which the underlying reduction occurred.

Each point source is responsible to ensure its discharge, adjusted by traded credits, meets its individual effluent limit. EPA retains full enforcement authority in the event either point source's effluent limit is exceeded.

DEQ supports intraplant trading (trading between different outfalls within a facility or plant) that involves the generation and use of credits between multiple outfalls that discharge to the same receiving water. DEQ will treat intraplant trading like a point-point interplant trade.

Bubble Limit NPDES permits integrate the aggregate waste load allocation (WLAs) or prescribed limits under a group “bubble.” Such limits may be considered by DEQ to meet reductions prescribed under a TMDL or source reductions required upstream by a downstream TMDL. When permittees share an aggregated WLA, either in a watershed permit or in the individual permit of the parties that are sharing the load, an aggregate limit should be developed for the group as well as individual limits for each permittee in the group. This aggregate limit provides assurance to the permittees meeting their requirement that they will not be held responsible in the event one or more of the other permittees discharge above their respective individual limit.

Bubble limits must be carefully evaluated to ensure localized impacts do not occur.

Point-Source-to-Nonpoint-Source Trading

A nonpoint source may voluntarily reduce its amount of pollutant run-off. If a BMP, selected from the applicable BMP List, is installed and the pollutant reduction is measured or calculated and documented according to the BMP’s requirements, a credit can be created that may be sold to a point source. A nonpoint source credit is characterized by an amount and a period of time consistent with the TMDL, and a point source’s NPDES requirements. The amount of the credit is determined by applying the appropriate quantification method to each BMP, then adjusting the result by baseline requirements and appropriate ratios.

A point source may maintain or increase its actual pollutant discharge for any period by purchasing credits generated in the same period by a nonpoint source located in the same trading area (although credits are often generated monthly due to ease of reporting on DMRs, they could be daily, seasonal, or annual, as discussed in Sections 3 and 6.4). When nonpoint source reductions are used to adjust point source discharges, the point source retains full responsibility for the quantity and delivery of the credits it purchases from a nonpoint source and uses to meet its effluent limits.

Nonpoint source credits are tradable only after the project is installed, installation has been inspected by the point source or designee, the reductions have been verified, and the credits have been registered. Should EPA or DEQ later determine that the BMP is not producing the expected reduction, the credit for that period may be nullified or reduced, and the point source’s effective discharge for that month would be adjusted accordingly (EPA has full authority under the NPDES program to enforce the point source’s effluent limit.). Mechanisms used to verify reductions include monitoring, trade information tracking (including use of a trade database or registry), and recordkeeping and reporting. EPA and DEQ will oversee verification of nonpoint source reductions as set forth in Section 8.2 **Error! Reference source not found.**

4.5 Trading in Pre-TMDL 303(d) Impaired Waters

Trading in 303(d) impaired waters for a pollutant that needs a TMDL may be challenging; it is difficult to determine the allowable loading for a pollutant to a receiving water body without the analysis of the TMDL process. With respect to pre-TMDL trading for a 303(d) listed parameter, DEQ will consider the following:

1. If trading is necessary to allow for a discharge from an existing NPDES permittee, the sources involved should conduct an analysis of pollutant loadings similar to DEQ's TMDL development process. The analysis would be subject to a public notice and review process as well as DEQ review and approval (e.g., as part of the 401 certification or NPDES permit process). Such an analysis may not be necessary for an existing NPDES permittee to offset its current discharge or for a nonpoint source to begin improvements in a basin in anticipation of a TMDL.
2. Similar requirements apply to a new or expanded discharge. Trading must be implemented through an NPDES permit for a new source or new discharger as well as expanded discharges from an existing NPDES permittee. The discharge cannot cause or contribute to the violation of Idaho Water Quality Standards. If a pollutant load allocation for the pollutant has been developed, then the discharger must demonstrate that, a) there is sufficient remaining pollutant load allocation to allow for the discharge, and b) existing discharges into the water body that do not meet applicable Water Quality Standards are subject to compliance schedules designed to bring the water body into compliance with the applicable water quality standard. See 40 CFR 122.4(i). (Also, see U.S. EPA, Office of Water, Water Quality Trading Policy, January 13, 2003.).
3. The proposed trading framework achieves direct environmental benefit relevant to the conditions for which the water body is impaired.

When EPA approves a TMDL, any trading agreements made prior to the TMDL that are inconsistent with TMDL requirements will have to be modified. DEQ encourages parties involved in pre-TMDL trading to contact DEQ early in the TMDL development process to ensure that future revisions to trading agreements do not create disincentives for early action.

5. Steps for Developing Water quality trading Frameworks in Idaho

DEQ must ensure that trades do not violate Idaho Water Quality Standards or impair beneficial uses. In addition, Clean Water Act (CWA) regulations impose certain requirements for trading to be incorporated into NPDES permits. DEQ needs adequate information and a trading framework to ensure compliance with state, federal, and local law. DEQ believes that the following information should be developed for each framework, and the following steps should be taken to ensure trades are consistent with state and federal requirements:

1. Normally, a TMDL should be in place or under development. As discussed in Section 4.5, specific issues should be addressed to conduct trades in the absence of a TMDL. Likely interest in trading should be identified. This typically involves meeting with key entities who would be likely trading partners, determining if the pollutant of choice is viable for trading, and determining if there are, in fact, opportunities to make enough reductions in the watershed that are above the required limits set for that pollutant. This process can take from a few weeks up to several months, dependent upon funding, timing, and staffing.
2. Where multiple credit buyers exist in a watershed, a trading framework should be developed. That framework must identify: the sectors that would be eligible to trade and the specific conditions for their eligibility, the approved credit-generating activities and quality standards for the framework, the general baseline obligations that exist in that framework area. The framework must also determine applicable trading ratios for the pollutant (i.e., attenuation, delivery, performance delay, uncertainty, reserve, retirement, etc.), and examine water quality conditions to identify localized impacts, and set trading area boundaries and priority areas if desired. Finally, the framework must provide direction as to how to incorporate these watershed-specific details into trading plan documents. Development of the trading framework can take anywhere from several months to two years, dependent upon funding, timing, and staffing. Where only a single buyer exists, this information will be incorporated into an NPDES permit or other regulatory document as a trading plan.
3. Each trading framework or plan should include an “adaptive management plan” describing how to improve the operations, science, and effectiveness of trading over time.
4. DEQ believes that public comment and input is critical for successful trading. Therefore, the Trading Framework document should go to public comment for no less than 30 days. Changes to the document, as appropriate, would be made based on the public comment received. A final Trading Framework for the specific watershed would be incorporated into Idaho’s Water Quality Trading Guidance as a stand-alone appendix.

5. If a TMDL covers any of the trading area, the trading framework must be consistent with the TMDL, including specific wasteload allocations and load allocations (actual allocations, timing, baseline assumptions, etc.). A TMDL or TMDL implementation document may provide guidance for trading in a watershed or may contain requirements that should be incorporated into a trading framework.
6. The NPDES permit is the mechanism translates general trading authorization into a set of enforceable conditions based on the approved Trading Framework for the watershed or individual trading plan, and any additional conditions the permit writer determines are necessary to protect water quality. The timing for this step depends on when the last permit was issued. DEQ supports modifying existing NPDES permits to include trading so that water quality improvements may be achieved as soon as practical.
7. Trading can then commence between the point source discharger and a nonpoint source or another point source, under the conditions of the NPDES permit and consistent with the Trading Framework for the specific watershed. These conditions include the timely filing of all required trade execution and confirmation documents with DEQ or its designee, and any documents required by EPA when a trade occurs. DEQ anticipates that a common trade tracking database will exist for each framework to ensure that documentation for all trades can be found in one central place.

6. Trading Components

This Section describes the components of water quality trading. The majority of trades will occur after a TMDL is developed, and so this Section assumes a TMDL is in place (for guidance regarding pre-TMDL trades, see Section 4.5).

The major components of water quality trading are *trading parties* (buyers and sellers) and *credits* (the commodity being bought and sold). Additionally, *ratios* are used to address uncertainty and ensure net water quality benefit. All trading activity must be recorded with DEQ.

Both point and nonpoint sources may create marketable credits, which are a reduction of a pollutant beyond a level set by a TMDL or NPDES permit:

- ◆ Point sources create credits by reducing pollutant discharges below NPDES effluent limits, which are derived from that source's waste load allocation, and then selling that extra reduction to other sources.
- ◆ Nonpoint sources create credits by implementing approved best management practices (BMPs) that reduce the amount of pollutant run-off. Nonpoint sources must follow specific design, maintenance, and monitoring requirements for each BMP, apply discounts to credits generated if required, and ensure a net environmental benefit.

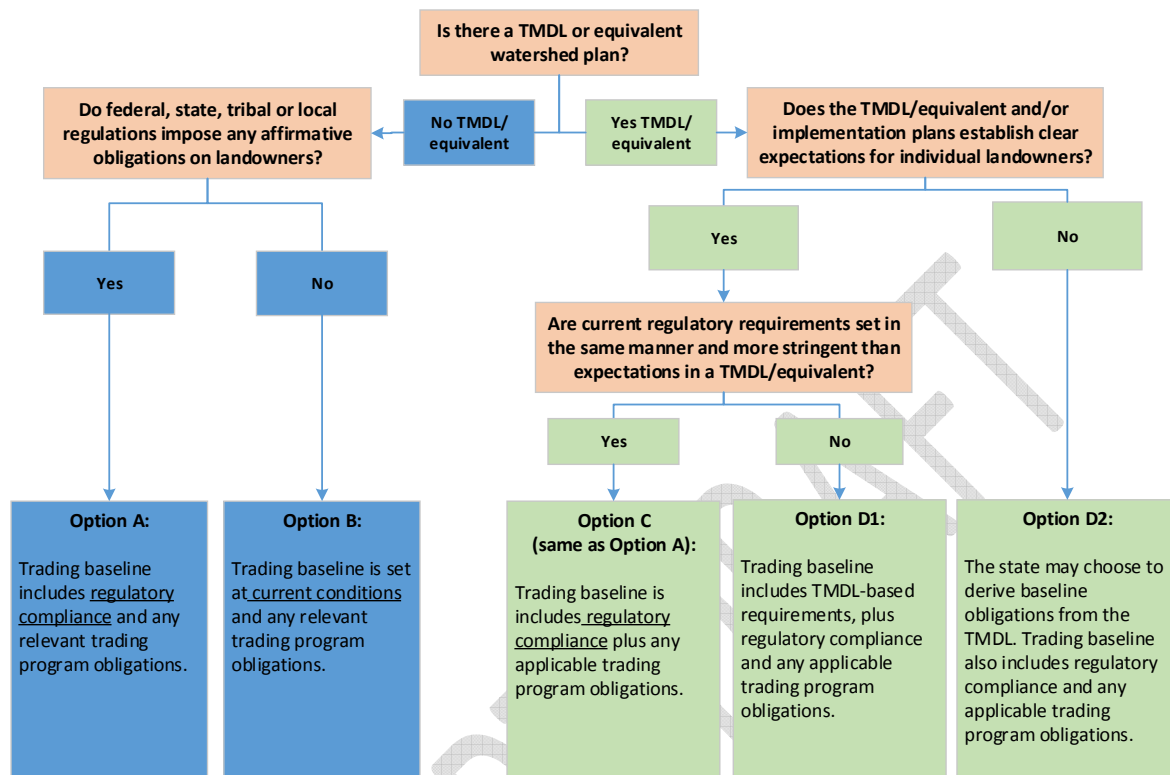
6.1 Project Eligibility for Credits

Both point sources and nonpoint sources may create pollutant reductions. However, not all reductions necessarily can be counted as credits. A pollutant reduction may need to be discounted to reflect uncertainty, attenuation, and/or policy choices. Or a reduction may come from an unproven BMP, or be quantified according to unknown methodology. As an example, if a permit requires a reduction from a specific source of 100 pounds per day of a pollutant into a water body and the source reduces its pollutant amount by 110 pounds per day, then the source has up to 10 pounds per day to trade. Before that reduction can become a credit, the reduction must go through several checks:

- ◆ *Project uses an approved BMP*: Each watershed trading framework or plan can create a list of pre-approved BMPs. Each pre-approved BMP should reference (e.g., NRCS practice standards) or include a guideline that articulates how a BMP should be designed, constructed, maintained, and monitored over time. Frameworks and trading plans can also provide a process to review new and innovative approaches on a case-by-case basis (see Section 7).
- ◆ *Projects need to be consistent with other laws and in good standing*: To generate a credit, a project should be in compliance with applicable federal, state, local, and tribal requirements.

- ◆ *Project BMP's pollutant reduction quantified in a verifiable way:* While pollutant reductions from point sources must be directly measured, credits produced by nonpoint source practices can be quantified using BMP efficiency rates, DEQ-approved modeling, and/or direct measurement. Doing this requires clear documentation of pre-project conditions, and a consistent methodology for measuring or estimating post-project conditions.
- ◆ *Projects must adequately account for risk and uncertainty:* Pollutant reductions may be directly measured, or based on BMP efficiency rates or DEQ-approved modeling. When estimating site level reductions with efficiency rates or modeling, it may be necessary to account for uncertainty in model inputs or assumptions, or for unknowns related to the flow of the pollutant through the water system (for example, of the 10 remaining credits, perhaps 1 needs to account for model uncertainty, and another needs to account for attenuation of the benefit, leaving only 8 to sell). It may also be important to adjust the reduction amount to account for risk of delayed-, decreased- or non-performance.
- ◆ *Projects need to be additional:* Credits are earned by pollutant reductions beyond a baseline level of pollutant reduction. For point sources, baseline is the effluent limit in their NPDES permit. For nonpoint sources, baseline levels need to be defined in a trading framework or plan. Figure 6.2 below provides a decision tree to help watersheds set nonpoint source baselines that would apply to individual landowners. Baselines need to be informed by current federal, state, local, and tribal requirements for individual landowners and TMDL load allocations, if they exist. Baseline requirements can be expressed as A) an extra amount of load that must be reduced by a nonpoint source at a site (e.g., as a percentage of the total overall load, or as a numeric amount), or B) a minimum set of BMPs or actions that must be installed at a site. Depending on the watershed, baseline requirements can be phased in over time. Baseline requirements apply to the whole farm, not an individual field, and landowners can meet baseline at the same time they are implementing actions to generate credits.

Figure 6.1: Options for deriving nonpoint source baselines



- ◆ Credit portions of project cannot be funded with cost share, but cost share can be used to meet baseline: Cost share, or more specifically public dollars dedicated to conservation purposes, can help make bigger and more robust projects. DEQ supports the use of cost share to help nonpoint sources meet baseline requirements, including using those funds to install baseline BMPs (e.g., a nutrient management plan or irrigation management plan). However, the proportion of a credit-eligible project funded by public dollars dedicated to conservation cannot be used to generate credits. For example, if NRCS' Environmental Quality Incentives Program cost shares 50% of a sediment basin, and a farmer pays for 50%, then the farmer could sell 50% of the total credits from the project. In the original example, this means that of the 10 remaining pollutant reductions, only 5 could be sold as credits (assuming no other adjustments were needed).
- ◆ Credits must be from BMPs installed after a base year: Trading frameworks and plans need to define a base year after which credits can be created. That base year should be as current as possible, and tied to the watershed analysis (e.g., a TMDL) used to support trading. Trading frameworks and plans can update the base year from time to time. Trading frameworks and plans may provide a limited "look-

back” period to bring in otherwise eligible early action projects, typically no more than two years prior to a TMDL approval by EPA.

6.2 Quantifying Pollutant Reductions for Water Quality Credits

Pollutant reductions can be quantified in several ways to generate water quality credits. Quantification includes an estimate of the pollutant reduced at the end of a pipe (point source) or at the edge of a field (nonpoint source), and may include adjustments for pollutant delivery and attenuation through the watershed, and application of any trade ratios.

Reductions can be measured directly, or they can be estimated using models and BMP efficiency rates. Different quantification methods will work better for different BMPs in different watersheds. A trading framework or plan’s credit quantification approach needs to be approved by DEQ, rely on the best available science, and be accurate, repeatable, sensitive, and transparent.

For point source pollutant reductions and for nonpoint BMPs where appropriate, DEQ prefers direct measurement. For BMPs and projects that use direct measurement, there needs to be an approved Quality Assurance Project Plan. Direct measurement may not be the most accurate or feasible quantification method for some nonpoint source BMPs. For all quantification methods, a trading framework or plan should articulate potential sources of uncertainty and how those uncertainties will be managed and mitigated. For all projects, quantification should be based on pre-project conditions and post-project conditions. The BMP guidelines mentioned in a trading framework or plan should articulate what documentation and information is needed to accurately quantify pollutant reductions in a way that can be reviewed during the verification process.

6.3 Trading Ratios

Credits produced at the end of a pipe or edge of a field need to be adjusted to protect overall water quality. In some watersheds, available models can quantify pollutant delivery and attenuation. If models or direct measurement will be used to account for watershed specific environmental protection, those models need to be reviewed the same as other approaches described in Section 6.2. In other watersheds, hydrologically-based ratios can be developed to ensure that trades between sources distributed throughout the watershed result in environmentally equivalent or better outcomes at the point of environmental concern. In addition, localized adverse impacts to water quality are not allowed.

Ratios can discount credit quantities to account for: 1) Delivery from a field to a water body and through a water body; 2) Equivalency between different pollutants (e.g., between phosphorous and nitrogen for dissolved oxygen); 3) Uncertainty (e.g., measurement error); 4) Reserve² (e.g., for BMP failure or temporary diminishment); and

² A reserve ratio is not necessary if other program elements address *force majeure* and other unforeseen events causing catastrophic BMP failure. This risk can be addressed by aggregators, private insurance, or contract provisions between parties.

5) Retirement /Water quality contribution.³ Ratios may also be used to increase credit quantities to incentivize restoration of priority areas, to incentivize early action, etc. Each trading framework or plan will need to consider these six types of ratios and whether each ratio is needed, and if it is, establish the ratios that make sense for the watershed. It may be that other aspects of the trading framework (e.g., eligibility criteria or conservative model assumptions) make some types of ratios unnecessary.

In relatively simple trades between an upstream seller and a downstream buyer, a ratio may be close to 1:1 if the pollutant is not diverted or diminished as it moves downstream. If, however, the pollutant is taken up through plants, settles out, or is diminished in some other way, a buyer may have to purchase more credits than it actually needs at its discharge point to account for the actual reduction in the water body. In combination, an overall trade ratio should be greater than 1:1 as part of ensuring net environmental benefit.

Ratios will be reviewed in conjunction with the reissuance of NPDES permits for point sources. The reviews will be conducted by DEQ or its designee. Ratios will be revised if calculations for each of the five years since the last review show a material divergence from the published ratios.

6.4 Credit Characteristics

Once a pollutant reduction has been converted into a credit, there are several aspects of that credit that are important to define:

- ◆ *Credit life.* A credit's "life" is the period from the date a credit becomes usable by a permittee for compliance purposes through to the date when the credit expires and is no longer valid. The life of a credit will depend upon the type of BMP and pollution reduction generated.
- ◆ *Credit projects can be renewed:* So long as projects are continuing to function and are properly maintained, the pollutant reductions from projects can be renewed to generate credits in subsequent compliance cycles (though the reductions may need to be adjusted to reflect the ratios and baseline requirements that apply at that future point in time).
- ◆ *Credits can be released in phases:* Most BMPs will start generating water quality improvements immediately. All credits can be released as soon as these BMPs are installed. For BMPs that take time to mature (e.g., restored wetlands or riparian planting), credits may be released in phases, or a ratio can be used to account for time lag.
- ◆ *Credits are not property rights:* Similar to a point source's effluent limit, credits are tied to a specific permittee's authorization to discharge. Just as EPA and DEQ may need to adjust a point source's effluent limit, credits may need to be adjusted.

³ A trading framework could choose to apply a retirement ratio only to certain BMPs, such as those that provide little or no ancillary benefits.

DEQ does recognize that approved credits are tradable goods with an ascertainable value, and encourages predictable and transparent management of trading and other water quality programs.

- ◆ *No double counting:* Generally, the same BMP on the same acre of land cannot be sold to offset the impacts from two different credit buyers. For example, a restored wetland cannot sell the same credit to offset a phosphorous impact from a point source and the wetland impact from a road project. However, projects with multiple environmental benefits are important. DEQ supports using proportional accounting that lets landowners sell, for example, 25% of their phosphorous credits from that wetland, so long as that seller proportionally reduces the amount of wetland credits available to sell by a similar 25%. If a single permittee needs to offset multiple types of pollutant discharge (e.g., phosphorous and temperature), it can purchase credits from BMPs that have those same types of credits. DEQ does not consider this double counting.
- ◆ *Credit expenses needed to get BMPs operational can be financed by State Revolving Fund (SRF).* A BMP installed to generate credits performs the same function as a piece of technology installed at a plant: both remove pollutants from waterways. DEQ interprets the 2014 SRF program amendments contained in the Water Resources Reform and Development Act (WRRDA) as allowing all “establishment” costs associated with BMPs as being eligible for SRF funds.

6.5 Preparing a Credit Project Plan

All credit-generating projects need to prepare a Project Design and Management Plan. The Plan should be prepared by someone qualified⁴ to select and properly design appropriate BMPs to improve water quality at a specific location.

Farmers developing BMP projects for water quality trading are encouraged to use the conservation planning process in coordination with NRCS and the SCC, but also may choose to develop a private project design and management plan. A Plan should meet the following requirements:

- ◆ Be designed with the goal of improving water quality.
- ◆ Meet all applicable laws and regulations (wetlands, stream channel alteration, etc.).
- ◆ Cause no significant adverse impacts to water quality or other resources (i.e., cannot violate Water Quality Standards).
- ◆ Outline specific restoration goals.

⁴ A qualified professional could be any of the following: an NRCS certified planner or an NRCS employee, a certified crop advisor, or a professional services provider. Some BMPs, such as constructed wetlands, will require consultation with other experts as well. Some BMPs on the list may specify the type of expert that will need to be consulted in the project’s design, installation, and maintenance requirements.

- ◆ Describe the proposed BMPs, the NRCS or other relevant quality standards for each BMP, and the BMP implementation plan.
- ◆ Describe the BMP monitoring and maintenance plan and how it will ensure the BMPs stay consistent with quality standards during the project life.

Whether the plan addresses resource issues other than water quality is up to the farmer.

6.6 Project Stewardship

Adequate legal and financial safeguards must be in place to protect the project for a minimum time period (e.g., five (5) years for non-structural BMPs and twenty (20) years for structural BMPs). These minimum stewardship times recognize the balance between maintaining operational flexibility for farmers and the need to provide some certainty for point source buyers over the life of their NPDES permit and facility plan.

Legal protections might include leases, deed restrictions, easements, etc. that protect the BMPs as they operate for the life of the project. Credit sellers should also demonstrate that they have adequate funding to operate and maintain BMPs for the duration of the credit life. These types of financial protections could include maintenance funds, performance bonds, restricted accounts, insurance, financial certification, etc. Different BMPs may require different lengths and amounts of funding.

7. Getting a new type of BMP approved

A list of approved BMPs can be found in the trading frameworks for each watershed. This list sets out which BMPs are recommended for trading, as well as each BMP's procedures for determining the amount of credits and its monitoring and maintenance requirements. Practices are developed and added to the list by following the steps outlined below. Practices may be added to the BMP List at any time.

Step 1: Prepare and Submit Proposed BMP Package

New practices, practices already on the Idaho Agriculture Pollution Abatement Plan (APAP) list,¹ or improved design, measurement, or calculation methods to BMPs already on the BMP List, may be nominated by anyone for inclusion on the BMP List. Each proposed BMP package must contain a description of the BMP and how it works; where the BMP should be applied (appropriate site conditions); potential side effects and ancillary benefits; monitoring requirements; design, installation, operation, and maintenance requirements; a method for quantifying credits, including any appropriate BMP efficiency or uncertainty ratio; and substantiating information. The proposed BMP package must be submitted to DEQ or its designee.

Step 2: Initial Screening of BMP Proposal

DEQ or its designee will perform an initial screening of the package for completeness and forward complete packages to the Idaho State BMP technical committee comprised of NRCS, DEQ, SWCC and other agencies, administered by the SWCC, to review such packages. The BMP committee only reviews nonpoint source BMPs.

Step 3: Review Process and Criteria for BMP Consideration

The following describes a recommended process for review of BMPs. The BMP technical committee will review the package in a timely matter. If the proposed BMP is already included in the APAP, then the committee will only review the water quality trading portion of the BMP package and related supporting documentation for its consideration on the BMP List. If the BMP is not included in APAP, then the technical committee can decide to postpone its review until it is incorporated in the APAP, or proceed to add it to the water quality trading BMP List if it is acceptable. If the proposed BMP involves new technology or methods for which data and experience are insufficient to support credit quantification, then the BMP will initially only be approved if the BMP can be directly measured, if the monitoring is scientifically credible and not cost prohibitive. If the practice's measurements are too variable based on type of crop planted or field size, then it may only be allowed using modeling or BMP efficiency rates.

⁵ The Idaho Agriculture Pollution Abatement Plan is Idaho's response to Section 208 of the federal Clean Water Act (PL 92-500), detailing how agricultural nonpoint source pollution is to be managed. This plan includes a list of nonpoint source Best Management Practices that can be used in Idaho to achieve water quality benefits.

Step 4: DEQ Concurrence, Public Notice and Comment

If the BMP technical committee recommends the BMP, it is forwarded to DEQ to conduct a public notice and comment period. Comments will be limited to the new BMP, and not to the program or the list of BMPs that have already been approved.

Step 5: Final Decision/Addition to BMP List

DEQ will revise the BMP based on public comments, in consultation with the BMP technical committee, and issue its final decision. If it is approved, the BMP will then be placed on the BMP List for the specific trading framework.

Revisions to BMPs that have already been approved will follow the same process as for adding a new BMP. BMP revisions may be triggered by the monitoring results or any other monitoring of the BMP's overall effectiveness and impact on other environmental parameters, as well as research of the BMP's performance on other sites.

8. Process for Generating and Tracking Credits

In general, projects will use a similar process to generate, review, and track credits over time. This Section describes the standard process that will be customized for individual trading frameworks and plans.

8.1 Initial Project Screening

Trading frameworks and plans may choose to conduct an initial screen for credit projects to confirm eligibility before anyone invests too much time and money. DEQ feels this step provides good information, but is optional.

8.2 Initial Verification

In the first year for all projects, there should be a review conducted by a permittee, designated independent third party, and/or DEQ. That review includes:

- ◆ Administrative Review: A check on project eligibility.
- ◆ Technical Review: Confirmation that credits were quantified accurately.
- ◆ Confirmation of project implementation: That the project was installed (via a site visit or other means) consistent with approved design and construction criteria, and that any BMPs expected as part of baseline are in place.

Inspections of NPDES Permitted Facilities for point source credits

Proposed point source credit projects are reviewed by EPA and DEQ as part of the procedures for NPDES permits. DMRs will be reviewed and compared with trading information contained in the applicable report, with any material anomalies being investigated by EPA and DEQ. Inspections of point source records may include review of documents related to a best management practice's performance of pollutant reduction.

Review of Best Management Practices (BMPs) for nonpoint source credits

A DEQ-approved verification entity will conduct reviews of some or all nonpoint source credit projects on the schedule and frequency determined by DEQ for a particular trading framework or plan. Copies of the reports from these reviews of BMPs involved in trades will be provided, and additional site reviews conducted, when requested by EPA or DEQ for verifying the reduction mechanism.

In addition, EPA and DEQ or DEQ's designee may visit the BMP sites themselves, to verify the documentation of the BMP design, maintenance, and monitoring performance. NPDES permit holders remain responsible for ensuring the proper implementation of BMPs and the correct amount of credits produced. Any compliance matters or enforcement actions will be taken up with the NPDES permit holder only. A copy of the

SCC inspection report will be provided to the permit holder who purchased credits from that specific BMP installation.

8.3 Ongoing Verification

Ongoing verification will occur on a cycle described in a trading framework and plan to confirm that projects are being maintained and functioning as promised.

8.4 Forms and Reporting

When credits are ready to be issued, the verification entity will certify that all aspects of the projects are in place and provide a *Trade Notification Form* to DEQ or its designee to register the credits into its trade database.

Trading parties must generate and maintain records to substantiate the validity of underlying reductions of credits and to document trades. These records are to be made available to EPA and DEQ upon request. Buyers should retain copies of trading records on site for a five-year period after completion of a trade contract.

Trade Notification Forms

DEQ has developed a *Trade Notification Form*. This document officially registers the trade with DEQ or their designee, transfers credits from the seller to the buyer, and adjusts the pollutant limit(s), subject to ongoing credit verification for nonpoint source credits. Attachments to the Trade Notification Form will likely include the project's verification report, certification, and other relevant information needed to register credits.

The *Trade Notification Form* is set up to be signed by both parties and submitted by the point source discharger, or, if two point sources are trading, by the buyer, to DEQ or its designee. DEQ or its designee will then enter the information into the trade-tracking database. In signing the *Trade Notification Form*, the nonpoint seller authorizes the BMP site to be inspected by the regulatory authorities (notice should be provided to the sellers), accompanied by the Idaho Soil and Water Conservation Commission (SWCC) or their designee, for the purpose of verifying compliance of the NPDES permit holder.

Discharge Monitoring Reports

Point source dischargers involved in a trade will use *Discharge Monitoring Reports* (DMRs) to summarize monitoring results and report actual effluent discharges. If trading occurs, a point source discharger will report, along with a DMR, its actual average monthly effluent discharge, the amount of credits sold or bought for that period, and its adjusted discharge (the actual discharge plus or minus any credits traded).

DMRs must be submitted to EPA by the 20th day of the second month following the reporting month. This submittal date gives a point source discharger time to complete sample analysis for any nonpoint source monitoring conducted near the end of the month and find replacement credits if its actual discharge exceeds the sum of its base effluent limit, plus any contracts for purchase of credits it has entered into for that reporting period, minus any credits it sold for that reporting period. A permit violation occurs when

the amount of the point source's actual discharge exceeds the amount of its base limit plus the amount of purchased credits minus any credits sold.

Trade Summary Reports

A point source discharger purchasing credits is responsible for submitting the *Trade Notification Form* (signed by seller and buyer) to DEQ or its designee. DEQ or its designee will prepare and send a *Trade Summary Report* to the point source discharger at intervals defined in a framework or trading plan, and the discharger must submit this report to EPA along with the DMR. The trade amounts shown on the DMRs must match the trade amounts shown on the *Trade Summary Reports*.

Sample Forms

INSERT UPDATED REDUCTION CREDIT CERTIFICATE

INSERT UPDATED TRADE NOTIFICATION FORM

8.5 Trade Database

DEQ is responsible for tracking trades and the day-to-day oversight of trading. It may designate another entity to assist with those tasks. Major functions of trade tracking include the following:

- ◆ Setting a submittal time for trade notification forms.
- ◆ Not accepting trades that have not been verified as meeting program requirements.
- ◆ Tracking all trades in a central database and showing trades' impacts on effluent limits and account balances of buyers and sellers.
- ◆ Reconciling all trades in the trading area to ensure credits are not used more than once.
- ◆ Making trading information and adjusted effluent limits readily available to regulatory agencies and the public.
- ◆ Producing *Trade Summary Reports* required for permit compliance and providing them to the point sources involved in trades.

By maintaining the trade-tracking database, DEQ or its designee ensures that an accounting of all trades and credits is available to the public and the environmental agencies. The database must be subject to sound data system and accounting principles with the ability to support outside review.

8.6 Adaptive Management

Quality standards development is essential for consistently and legitimately translating ecological benefit into a credit that can legally offset an impact. These quality standards can be used in site screening, site design & implementation, verification, certification, and registration to predictably and fairly operate across watersheds as applied to different permittees. Standards development also includes adaptive management to improve the elements of trading guidance, frameworks, or plans with new information over time.

CONCEPT DRAFT

Glossary

§ 303(d)

Refers to Section 303, subsection “d” of the Clean Water Act. Section 303(d) requires states to develop a list of water bodies that do not meet water quality standards. This Section also requires that total maximum daily loads (TMDLs) be prepared for listed waters. Both the list and the TMDLs are subject to U.S. Environmental Protection Agency approval.

states, territories, tribes, and basin commissions.

Beneficial Use

Any of the various uses of water, including, but not limited to, aquatic life, recreation, water supply, wildlife habitat, and aesthetics, which are recognized in water quality standards.

Best Management Practices (BMPs)

Structural, nonstructural, and managerial techniques that are effective and practical means to control nonpoint source pollutants. BMPs can be applied before, during, and after pollution-producing management activities to reduce or eliminate the introduction of pollutants into receiving waters.⁶ BMPs can consist of land management practices, and in-stream improvements (e.g., in-stream restoration actions, in-stream flow augmentation, etc.).

Best Professional Judgment

A conclusion and/or interpretation derived by a trained and/or technically competent individual by applying interpretation and synthesizing information.

Clean Water Act (CWA)

The Federal Water Pollution Control Act (commonly known as the Clean Water Act) establishes a process for states to use to develop information on, and control the quality of, the nation’s water resources (33 U.S.C. §§ 1251–1387).

Criteria (Water Quality)

As defined in 40 C.F.R. § 131.3, water quality criteria are elements of state water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use. The U.S. Environmental Protection Agency develops criteria guidance; states establish criteria.

Fully Supporting

In compliance with water quality standards and within the range of biological reference conditions for all designated and existing beneficial uses as determined through the *Water Body Assessment Guidance*.⁷

Hydrologic Unit

One of a nested series of numbered and named watersheds arising from a national standardization of watershed delineation. The initial 1974 effort described four levels (region, subregion, accounting unit, and cataloging unit) of watersheds throughout the United States. The fourth level is uniquely identified by an eight-digit code built of two-digit fields for each level in the classification. Originally termed a cataloging unit, fourth field hydrologic units

⁶ See U.S. Environmental Protection Agency, *Water Quality Trading Toolkit for Permit Writers*, p. Glossary-2 (2007), available at <http://water.epa.gov/type/watersheds/trading/WQTToolkit.cfm>.

⁷ Grafe, C.S., C.A. Mebane, M.J. McIntyre, D.A. Essig, D.H. Brandt, and D.T. Mosier. 2002. The Idaho Department of Environmental Quality Water Body Assessment Guidance, Second Edition-Final. Idaho Department of Environmental Quality; Boise, Idaho. Available at https://www.deq.idaho.gov/media/457010-wbag_02_entire.pdf.

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have been more commonly called subbasins. Fifth and sixth field hydrologic units have since been delineated for much of the country and are known as watershed and subwatersheds, respectively.

Hydrologic Unit Code (HUC)

The number assigned to a hydrologic unit. Often used to refer to fourth field hydrologic units.

Load Allocation (LA)

The portion of receiving water's loading capacity that is allocated to one or more nonpoint sources of pollution or to natural background pollution.⁸ Load allocations specify how much pollutant each nonpoint source or group of nonpoint sources may release to a water body. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading.

Metric

1) A discrete measure of something, such as an ecological indicator (e.g., number of distinct taxon). 2) The metric system of measurement.

Milligrams per Liter (mg/L)

A unit of measure for concentration. In water, it is essentially equivalent to parts per million (ppm).

Million Gallons per Day (MGD)

A unit of measure for the rate of discharge of water, often used to measure flow at wastewater treatment plants. One MGD is equal to 1.547 cubic feet per second.

Monitoring

A periodic or continuous measurement of the properties or conditions of some medium of interest, such as monitoring a water body.

National Pollutant Discharge Elimination System (NPDES)

A national program established by the Clean Water Act for permitting point sources of pollution (33 U.S.C. § 1342). Discharge of pollution from point sources is not allowed without a permit.

Nonpoint Source

A dispersed source of pollutants, generated from a geographical area when pollutants are dissolved or suspended in runoff and then delivered into waters of the state.⁹ Nonpoint sources are without a discernable point or origin. They include, but are not limited to, irrigated and non-irrigated lands used for grazing, crop production, and silviculture; rural roads; construction and mining sites; log storage or rafting; and recreation sites.

Parameter

A variable, measurable property whose value is a determinant of the characteristics of a system, such as temperature, dissolved oxygen, and fish populations are parameters of a stream or lake.

Point Source

A source of pollutants characterized by having a discrete conveyance, such as a pipe, ditch, or other identifiable "point" of discharge into a receiving water.¹⁰ Common point sources of pollution are industrial and municipal wastewater.

Pollutant

⁸ 40 C.F.R. § 130.2(g).

⁹ 40 C.F.R. § 35.1605-4.

¹⁰ 33 U.S.C. § 1362(14).

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Generally, any anthropogenic substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems. This includes fertilizer runoff, pesticides, heavy metals, heat load caused by vegetation removal or bacteria introduced from human and animal wastes, among others.

Pollution

A very broad concept that encompasses human-caused changes in the environment which alter the functioning of natural processes and produce undesirable environmental and health effects. This includes human-induced alteration of the physical, biological, chemical, and radiological integrity of water and other media.

Surface Runoff

Precipitation, snow melt, or irrigation water in excess of what can infiltrate the soil surface and be stored in small surface depressions; a major transporter of nonpoint source pollutants in rivers, streams, and lakes. Surface runoff is also called overland flow.

Surface Water

All water naturally open to the atmosphere (rivers, lakes, reservoirs, streams, impoundments, seas, estuaries, etc.) and all springs, wells, or other collectors that are directly influenced by surface water.

Suspended Sediments

Fine material (usually sand size or smaller) that remains suspended by turbulence in the water column until deposited in areas of weaker current. These sediments cause turbidity and, when deposited, reduce living space within streambed gravels and can cover fish eggs or alevins.

Total Maximum Daily Load (TMDL)

A TMDL is a water body's pollutant load capacity that will still allow the water body to meet its applicable water quality standards.¹¹ A TMDL can be expressed on a time basis other than daily if appropriate. Sediment loads, for example, are often calculated on an annual basis. A TMDL is equal to the load capacity, such that load capacity = margin of safety + natural background + load allocation + wasteload allocation = TMDL. In common usage, a TMDL also refers to the written document that contains the statement of loads and supporting analyses, often incorporating TMDLs for several water bodies and/or pollutants within a given watershed.

Total Dissolved Solids

Dry weight of all material in solution in a water sample as determined by evaporating and drying filtrate.

Toxic Pollutants

Materials that cause death, disease, or birth defects in organisms that ingest or absorb them.¹² The quantities and exposures necessary to cause these effects can vary widely.

Wasteload Allocation (WLA)

The portion of receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution.¹³ Wasteload allocations specify how much pollutant each point source may release to a water body.

Water Body

A stream, river, lake, estuary, coastline, or other water feature, or portion thereof.

¹¹ 33 U.S.C. § 1313(d)(1)(C) and 40 C.F.R. § 130.2(i).

¹² U.S. Environmental Protection Agency, *Water Quality Trading Policy*, 68 Fed. Reg. 1608, 1610 (Jan. 13, 2003).

¹³ 40 C.F.R. § 130.2(h).

Water Pollution

Any alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the state, or the discharge of any pollutant into the waters of the state, which will or is likely to create a nuisance or to render such waters harmful, detrimental, or injurious to public health, safety, or welfare; to fish and wildlife; or to domestic, commercial, industrial, recreational, aesthetic, or other beneficial uses.

Water Quality

A term used to describe the biological, chemical, and physical characteristics of water with respect to its suitability for a beneficial use.

Water Quality Standards

State-adopted and U.S. Environmental Protection Agency-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.¹⁴

¹⁴ 40 C.F.R. § 131.3(i).

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CONCEPT DRAFT

Appendix A: Lower Boise River Framework

INSERT UPDATED BOISE FRAMEWORK

Appendix B: Snake River Framework

INSERT UPDATED SNAKE RIVER FRAMEWORK

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